# Lesson 23 – Project – micro:PET Requirements and Planning

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| The Big Picture – Why Is This Relevant? | Learning Objectives |
| * This is an open-ended project where Learners will use the skills, code and hardware that they have learnt about in previous lessons to build a Programmable Engaging Toy (PET) | * Understand what the project requires * Know what the success criteria mean * Begin to plan pet solution to meet the Success Criteria |
| Engagement – How Can I Engage Learners? | Assessment for Learning |
| * Interactive toys could be shared or demonstrated to the Learners to spark ideas * The teacher may have access to previous solutions from other classes which can be demonstrated and shared | **Expected Progress:**   * Learners discuss your ideas with other Learners   **Good Progress:**   * Learners record ideas and solutions in the planning table * Learners complete the design sheet   **Exceptional Progress:**   * Learners consider the program code and hardware that is required to create the PET |
| Links to KS3 Programme of Study | |
| * design, use and evaluate computational abstractions that model the state and behaviour of real-world problems and physical systems * use 2 or more programming languages, at least one of which is textual, to solve a variety of computational problems; make appropriate use of data structures [for example, lists, tables or arrays]; design and develop modular programs that use procedures or functions * undertake creative projects that involve selecting, using, and combining multiple applications, preferably across a range of devices, to achieve challenging goals, including collecting and analysing data and meeting the needs of known users | |
| Key Concepts | Key Words |
| * What the project requires * The success criteria * Planning and ideas * Design the micro:PET |  |
| Differentiation | Resources |
| The four programs increase in difficulty, which means that Learners of all abilities will be able to access the examples and use them in their micro:PET solution. | * Design Sheet * Lesson 23 ppt * Lesson 23 Activity Sheets 1 and 2 * Project overview * Access to previous lesson resources and hardware * Sample Python code * Design sheet * Scissors * Tinfoil |
| Lesson Flow | |
| * Teacher to introduce the PET project * Allow Learners 5 to 10 minutes to discuss their ideas before they complete the planning table of their ideas * Discuss the fact that learners will be working in teams of 4, each performing a different role. Introduce the roles using the ppt. * Learners complete the planning table and write down their ideas of interaction and what features of the micro:bit they will use to do this * It is important that Learners are given enough time to come up with ideas. Learners can always select these or more of the ideas provided at the beginning of the project brief * Two members of the team should complete the Design Sheet * The other two team members should work through activity sheet 2 which introduces some ideas and code for various interactions. * Teacher to circulate Learners and support with their ideas and solutions, try to refer to previous lesson activities and resources | |
| Making | |
| There are no making activities in this lesson. | |